

Course Syllabus for:

Identifying the Correct Casting Defect



Course Code	CEUs
1-205	0.4 CEUs

Course Introduction

This course provides participants with a basic overview of the casting defect analysis procedure. Topics include an introduction to the ten step method for casting defect identification; writing a good problem statement; discussion on the importance of recording process parameters; an introduction to navigating the International Atlas of Casting Defects; a path to identifying the right defect and its root cause for corrective action. Learning a systematic procedure for root cause identification supports the business goal of designing, producing and selling quality castings that are made in a timely manner and in a safe environment for a profit.

Learning Outcomes:

1. List the steps used in Casting Defect Analysis
2. State the benefits of using a consistent approach
3. Identify a good problem statement
4. Collect process data using the process sheet
5. State the importance of evaluating data
6. Use the International Atlas of Casting Defects classification system

Lesson Outline

- Introduction
- Module 1: Casting Defect Analysis Procedure
 - The 10 Step Procedure
- Module 2: Problem Statements
 - Identification & Definition
 - Writing a Good Problem Statement
- Module 3: Collect Process Data
 - Data Collection
 - Process Sheet
- Module 4: Evaluate Data
 - Relevant Data
- Module 5: Classify and Identify Defects
 - Defect Classification System
 - Descriptions, Causes and Remedies
 - Asking Why 5 Times
- Conclusion

Instructional Methods:

- Facilitator-led discussion
- Group discussion
- Individual/Small group activities
- Q&A

Assessment Methods:

No formal assessment will take place in this course; however, attendees will participate in informal activities such as knowledge check and Q&A sessions with the facilitator to verify that learning outcomes are being met. Assessment of successful achievement of learning outcomes must be included throughout the course in order to meet the ANSI/IACET 1-2013 standard for continuing education programs and for CEUs to be awarded.

Course Prerequisites:

Prior to taking this course, participants should be able to:

- explain the basic process and principles of metalcasting using appropriate terminology.
- Or
- have taken the *Introduction to Metalcasting* Institute course.

Texts, Books or other Resources for Purchase:

- AFS-CIATF *International Atlas of Casting Defects*
- AFS *Casting Defects Handbook: Iron and Steel*
- AFS *Casting Defects Handbook: Aluminum & Aluminum Alloys*
- AFS *Casting Defects Handbook: Copper & Copper-Base Alloys*

Attendee Requirements to Earn CEUs:

1. Present at least 3 hrs of the total 3.5 hrs of instructional time (90%), which does not include lunch or breaks.
2. Active participation (can include asking questions, communicating with other attendees during and taking part in group activities, providing responses during whole class or group discussions).
3. Successful achievement of learning outcomes.

Who Should Attend?

The target audience for this course consists of individuals responsible for:

- Auditing/inspecting/quality control
- Purchasing, sales, marketing or office operations
- Production or engineering
- Managing and overseeing the production management staff
- Managing and supervising production staff